STATE SAVE-ON-POWER-DOWN USING GMR NON-VOLATILE ELEMENTS

Abstract of the Disclosure

The semiconductor industry seeks to reduce the risk of traditional volatile storage devices with improved non-volatile storage devices. The increased demand for a significantly advanced, efficient, and non-volatile data retention technique has driven the development of integrated giant-magneto-resistive (GMR) structures. The present invention relates to non-volatile logic state retention devices, such as GMR storage elements, and concerns a save-on-power-down circuit that may be integrated with conventional semiconductor-based computing, logic, and memory devices to retain volatile logic states and/or volatile digital information in a non-volatile manner.